

FREEHOLD REGIONAL HIGH SCHOOL DISTRICT

OFFICE OF CURRICULUM AND INSTRUCTION

TECHNOLOGY EDUCATION DEPARTMENT

ARCHITECTURE 2 HONORS

Grade Level: 10-12

Credits: 5

BOARD OF EDUCATION ADOPTION DATE:

AUGUST 26, 2013

[SUPPORTING RESOURCES AVAILABLE IN DISTRICT RESOURCE SHARING](#)

APPENDIX A: ACCOMMODATIONS AND MODIFICATIONS

APPENDIX B: ASSESSMENT EVIDENCE

APPENDIX C: INTERDISCIPLINARY CONNECTIONS

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Architecture II Honors

Course Philosophy

Architecture II (Honors) endeavors to provide students with the information they need to be productive members of the design and industrial world. Through the use of traditional methods and hands-on problem solving, students will engage in a host of authentic architectural design activities. By immersing in an experience that mimics industry, students will be better prepared to continue their education in this field and have an understanding for how the world around them is designed and produced.

Course Description

Architecture II Honors is a one year, five-credit course designed for students who may be considering post-secondary educational programs or employment in related areas. This course provides a review of basic construction methods and design fundamentals. The students will gain advanced understanding of preparing floor plans, renderings, and elevations using traditional, as well as computer-aided design (CAD) methods. The students develop and create residential and commercial plans along with constructing models/prototypes. This course will enhance the students' awareness of various facets of the architectural field, including construction techniques, historical perspectives, landscape design, architectural styles, building codes, and structural design. Skills in communication, presentations, mathematics, science, leadership, teamwork, and problem solving are reinforced. Students will prepare a portfolio to present their architectural skills and designs in a professional, efficient, and accurate manner.

Course Map			
CCSS	Enduring Understandings	Essential Questions	Common Assessments
8.2.12.F.1 9.1.12.A.1 9.1.12.B.2 9.1.12.F.2 11-12.RST.3	Following safety procedures and using personal protection equipment will reduce the risk of injury.	What are the safety concerns and procedures to be considered when working in a lab setting in school or on the job? What protection can be used in a laboratory and/or work environment? What characteristics are essential to an effective safety program?	Performance-Based Safety Test
8.1.12.F.2 8.2.12.A.1 8.2.12.E.1 8.2.12.F.1, 3 8.2.12.G.1 9.1.12.A.1 9.1.12.B.2 9.1.12.F.2 11-12.RST.3, 4 11-12.WHST.2,4,6	Computer-aided design and traditional drafting each have their place in the world of architecture.	What are the various tools used in architectural drawing? Why must an architectural drawing be done at a specific scale? How are CAD and traditional drawing methods used in the workforce of today? What influences an architect to use CAD over traditional technical drawing, or vice versa?	Architectural Scale Drawing Designing for a Client
8.1.12.F.2 8.2.12.A.1 8.2.12.B.1,2,3 8.2.12.E.1 8.2.12.F.1,2,3 8.2.12.G.1 9.1.12.A.1 9.1.12.B.1,2, 3 9.1.12.F.1,2 11-12.RST.1, 2, 3, 4, 7, 9, 10 11-12.WHST.1, 2, 4, 6, 8, 9	Architects use many types of drawings and modeling to convey a final design.	What types of drawings and models can an architect use to communicate ideas? What influences an architect's method of presentation? How would an architect present designs to a client?	Architectural Scale Drawing Designing for a Client 3D Design for a Client Professional Presentation Career Exploration Building Codes Test Communicating to a Client

Course Map

CCSS	Enduring Understandings	Essential Questions	Common Assessments
8.1.12.F.1 8.2.12.A.1 8.2.12.B.3 8.2.12.E.1 8.2.12.F.1,3 8.2.12.G.1 9.1.12.A.1 9.1.12.B.1, 2, 3 11-12.RST.2, 3, 4, 7, 10 11-12.WHST.1, 2, 6	Architectural plans are essential to properly communicate a design.	What information is needed to properly communicate an architectural design? How are architectural plans utilized during construction? How do you incorporate structural materials into a working set of drawings?	Foundation Plans Professional Presentation Building Codes Test Communicating to a Client
8.1.12.F.1 8.2.12.B.2, 3 8.2.12.C.2 8.2.12.E.1 8.2.12.F.1,2,3 8.2.12.G.1 9.1.12.A.1 9.1.12.B.1,2,3 11-12.RST. 2, 3, 4, 7,10 11-12.WHST.9	Legal and consumer regulations influence residential and commercial designs.	What is a building code? How would you locate building codes in your area? What framing details are necessary to create an approved frame structure? How do available materials affect design decisions?	Foundation Plans 3D Design for a Client Style & Structure Building Codes Test Communicating to a Client
8.2.12.A.1 8.2.12.B.1,3 8.2.12.F.1,3 8.2.12.G.1 9.1.12.A.1 9.1.12.B.1, 2, 3 9.1.12.F.1 11-12.RST.1, 2, 3, 4, 7, 9 11-12.WHST.1, 2, 6, 8, 9	The field of architecture has many career opportunities in a variety of specializations.	What are the different types of architecturally related jobs? What degrees/certifications are available in the field of architectural design? How does a professional conduct himself or herself?	Professional Presentation Career Exploration Building Codes Test Communicating to a Client

Course Map

CCSS	Enduring Understandings	Essential Questions	Common Assessments
8.1.12.F.2 8.2.12.A.1 8.2.12.B.2,3 8.2.12.E.1 8.2.12.F.1,2,3 9.1.12.A.1 9.1.12.B.1,2,3 9.1.12.F.2 11-12.RST.2, 3, 4, 7, 10 11-12.WHST.1, 2, 6, 9	3D modeling provides an opportunity to see a design during development and before construction	What are some different types of 3D models and their purposes? What are the various approaches to 3D modeling? Why is a 3D model an effective way to present a final idea to a client?	Designing for a Client 3D Design for a Client Professional Presentation
8.1.12.F.2 8.2.12.A.1 8.2.12.C.2 8.2.12.E.1 8.2.12.F.1,2, 3 9.1.12.A.1 9.1.12.B.1,2,3 9.1.12.F.2 11-12.RST.2, 3, 4, 7, 10 11-12.WHST.2,6,9	Architectural styles and design evolve based on a variety of factors and approaches.	What are the different approaches that can be taken when presented with an architectural design problem? What is an architectural style? How and why have architectural styles change over time? How can a trend in architecture be affected by cultural, political, economic, and environmental factors?	Designing for a Client Style & Structure

Enduring Understandings & Pacing

Unit Title	Unit Understandings	Recommended Duration
<u>1: Safety</u>	Following safety procedures and using personal protection equipment will reduce the risk of injury.	1 week
<u>2: Review of Architectural Drawing/CAD</u>	Computer-aided design and traditional drafting each have their place in the world of architecture. Architects use many types of drawings and modeling to convey a final design.	2 weeks
<u>3: Foundation of Foundations</u>	Architectural plans are essential to properly communicate a design. Legal and consumer regulations influence residential and commercial designs.	3-4 weeks
<u>4: Construction Methods</u>	Legal and consumer regulations influence residential and commercial designs. Architectural plans are essential to properly communicate a design. Architects use many types of drawings and modeling to convey a final design. The field of architecture has many career opportunities in a variety of specializations.	3-4 weeks
<u>5: Advanced Computer-Aided Design Modeling</u>	Computer-aided design and traditional drafting each have their place in the world of architecture. 3D modeling provides an opportunity to see a design during development and before construction. Architectural styles and design evolve based on a variety of factors and approaches. Architects use many types of drawings and modeling to convey a final design.	7-8 weeks
<u>6: Advanced 3D Modeling Techniques</u>	Architects use many types of drawings and modeling to convey a final design. Legal and consumer regulations influence residential and commercial designs. 3D modeling provides an opportunity to see a design during development and before construction.	7-8 weeks

Enduring Understandings & Pacing

Unit Title	Unit Understandings	Recommended Duration
7: Traditional vs. Non-Traditional Structures	<p>Legal and consumer regulations influence residential and commercial designs.</p> <p>Architectural styles and design evolve based on a variety of factors and approaches.</p>	5-6 weeks
8: Client Relations/ Professional Practice	<p>Architectural plans are essential to properly communicate a design.</p> <p>3D modeling provides an opportunity to see a design during development and before construction.</p> <p>Architects use many types of drawings and modeling to convey a final design.</p> <p>The field of architecture has many career opportunities in a variety of specializations.</p>	2-3 weeks
9: Job-Specific Industry Study	<p>Architects use many types of drawings and modeling to convey a final design.</p> <p>The field of architecture has many career opportunities in a variety of specializations.</p>	2-3 weeks

UNIT OVERVIEW

ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS
Following safety procedures and using personal protection equipment will reduce the risk of injury.	What are the safety concerns and procedures to be considered when working in a lab setting in school or on the job? What protection can be used in a laboratory and/or work environment? What characteristics are essential to an effective safety program?

LEARNING TARGETS

NJCCCS/CCSS	COMMON ASSESSMENT	LEARNING GOALS
8.2.12.F.1 9.1.12.A.1 9.1.12.B.2 9.1.12.F.2 11-12.RST.3	Performance/knowledge-based test to include procedures, operations, and applications through manipulation of materials	The proficient student will be able to: <ul style="list-style-type: none"> • demonstrate knowledge of safety procedures, operations; • practice correct safety procedures through hands-on manipulatives; • utilize varied equipment properly; • dress appropriately for the equipment being utilized; • comprehend a complex informational text by drawing relevant evidence to construct effective arguments and analyses.

SUGGESTED STRATEGIES

ACTIVITIES	DECLARATIVE KNOWLEDGE	PROCEDURAL KNOWLEDGE
Students will fill out guided notes on procedures, operations, and applications.	Procedures& Rules Machinery/equipment Hand tools, power tools, hot tools Blood-borne pathogens	<ul style="list-style-type: none"> • Identify locations of needed supplies and materials. • Demonstrate proper protocol for blood-borne pathogens.
Students can create a safety video or live sketch based on assigned tool.		<ul style="list-style-type: none"> • Identify proper hand placement when cutting. • Demonstrate proper disposal of used blades. • Demonstrate personal responsibility for using tools.

SUGGESTED MODIFICATIONS

TECHNOLOGY INTEGRATION

Activity Alternatives

- Students can create a podcast or radio public service announcement regarding classroom safety.
- Students can create a multimedia project instead of participating in a safety video.

Student Monitoring

- Students will participate in online quizzes, such as with Quizstar, to formatively assess understanding of safety.

DIFFERENTIATION

The teacher may:

- have students performing at a higher level incorporate more than one topic into their safety video;
- have students performing at a lower level could be provided with a script for a video;
- have students performing at a lower level could be provided with specific resources to support the creation of a poster;
- group students based on learning level, age, or grade level in order to optimize learning.

HONORS ARCHITECTURE II
UNIT 2: REVIEW OF ARCHITECTURAL DRAWING/CAD

SUGGESTED DURATION: 2 WEEKS

UNIT OVERVIEW

ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS
Computer-aided design and traditional drafting each have their place in the world of architecture.	What are the various tools used in architectural drawing? Why must an architectural drawing be done at a specific scale?
Architects use many types of drawings and modeling to convey a final design.	What types of drawings and models can an architect use to communicate ideas?

LEARNING TARGETS

NJCCCS/CCSS	COMMON ASSESSMENT	LEARNING GOALS
8.2.12.F.1, 3 8.2.12.G.1 9.1.12.A.1 11-12.RST.3, 4 11-12.WHST.4	Students will receive a design brief in which they will complete a performance based project on creating architectural drawings to scale utilizing tools such as, but not limited to; architectural scales, T-squares, triangles, compass, CAD software, in 2D and/or 3D to convey a design.	The proficient student will be able to: <ul style="list-style-type: none"> properly use drafting tools or CAD; effectively create a drawing to scale; correctly communicate an architectural design through drafting techniques.

SUGGESTED STRATEGIES

ACTIVITIES	DECLARATIVE KNOWLEDGE	PROCEDURAL KNOWLEDGE
Students will practice drawing objects everyday/conceptual objects using drafting tools.	Drafting tools Perspective Line weights, line types Shading Orthographic drawings	<ul style="list-style-type: none"> Identify proper tool for specific purpose. Demonstrate use of specific tools to accomplish a task. Draw a 3D object in 2D.
Students will practice drawing a title block and floor plan to scale.	Title block Scale Architectural drawing Line types, line weights Dimensioning Floor plan Architectural lettering	<ul style="list-style-type: none"> Prepare a title block following specifications. Generate a floor plan of a room to scale.

SUGGESTED MODIFICATIONS

TECHNOLOGY INTEGRATION

Activity Alternatives

- Students can utilize CAD software to create drawings or floor plans.

Student Monitoring

- Photograph and submit photo with description of work and any challenges through Padlet picture wall.

DIFFERENTIATION

The teacher may:

- provide a reference sheet to utilize while drawing;
- assign different levels of expectation for drawings based upon ability;
- provide visual aids depicting architectural drawings.

HONORS ARCHITECTURE II
UNIT 3: FOUNDATION OF FOUNDATIONS

SUGGESTED DURATION: 3-4 WEEKS

UNIT OVERVIEW

ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS
Architectural plans are essential to properly communicate a design.	What information is needed to properly communicate an architectural design? How are architectural plans utilized during construction?
Legal and consumer regulations influence residential and commercial designs.	What is a building code? How would you locate building codes in your area? What framing details are necessary to create an approved frame structure?

LEARNING TARGETS

NJCCCS/CCSS	COMMON ASSESSMENT	LEARNING GOALS
8.1.12.F.1 8.2.12.E.1 8.2.12.F.1 8.2.12.G.1 9.1.12.A.1 11-12.RST.3,4,7,10	Students will receive a design brief in which they will complete a performance based project on creating a working set of architectural foundation plans and/or construct a model communicating a foundation influenced by building codes that they will research and interpret.	The proficient student will be able to: <ul style="list-style-type: none"> • communicate a design through floor plans; • interpret specific building codes; • locate local building codes.

SUGGESTED STRATEGIES

ACTIVITIES	DECLARATIVE KNOWLEDGE	PROCEDURAL KNOWLEDGE
Students will manipulate and rate various materials to apply to structural material decisions.	Tension, Compression, Shearing, Torsion, Saturation, Weathering, Resistance, Elasticity, Malleability	<ul style="list-style-type: none"> • Test and rate material properties. • Categorize specific material based on abilities.
Students will create a comparison chart on materials for a structural project such as; towers, bridges, decks, etc...	Charts, Cost, Life Expectancy, Budget, Ascetics, Economy of Means, Material Properties	<ul style="list-style-type: none"> • Classify material based on intended purpose. • Produce a chart comparing materials.
Students will complete a cost analysis of various materials	Economy of Means, Resources, Capital, Unit Cost, Services, Shipping, Net, Gross, Consumer, Budget	<ul style="list-style-type: none"> • Calculate final cost of materials • Evaluate material based on cost and properties. • Select a material to utilize for a specified purpose based on cost analysis.

SUGGESTED MODIFICATIONS

TECHNOLOGY INTEGRATION

Activity Alternatives

- Students can utilize data sheet programs in order to create charts and analysis. (Example: Excel or Google Drive)
- Utilize the Material and Forces Lab < www.PBS.org/wgbh/buildingbig/lab/ > to learn about material science.

Student Monitoring

- Students will submit bridge designs to the West Point Bridge Designer Program in order to show class ranking on a daily basis regarding forces within their designs.

DIFFERENTIATION

The teacher may:

- provide a reference sheet of formulas;
- assign different material based on ease of manipulation;
- provide students with a template for their specific chart.

HONORS ARCHITECTURE II
UNIT 4: CONSTRUCTION METHODS

SUGGESTED DURATION: 3-4 WEEKS

UNIT OVERVIEW	
ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS
Legal and consumer regulations influence residential and commercial designs.	What is a building code? How do available materials affect design decisions? What framing details are necessary to create a framed structure?
Architectural plans are essential to properly communicate a design.	What information is needed to properly communicate an architectural design? How are architectural plans utilized during construction? How do you incorporate structural materials into a working set of drawings?
Architects use many types of drawings and modeling to convey a final design.	What types of drawings and models can an architect use to communicate ideas?
The field of architecture has many career opportunities in a variety of specializations.	What are the different types of architecturally related jobs?

LEARNING TARGETS		
NJCCCS/CCSS	COMMON ASSESSMENT	LEARNING GOALS
8.2.12.B.3 8.2.12.F.1, 3 11-12.RST.3, 4, 10	Students will receive a design brief in which they will complete a knowledge based test on materials, tools, and/or equipment needed to guide the building of a residential structure and/or model according to building codes.	The proficient student will be able to: <ul style="list-style-type: none"> locate and interpret specific building codes and their sources within a technical text; select and analyze various materials and tools used in the design and construction of a residential structure.
8.2.12.F.1, 3 9.1.12.A.1 11-12.RST.3, 4, 10	Students will receive a design brief in which they will complete a performance based project in which the students have to create architectural drawings to scale so that they properly convey the design to another student.	The proficient student will be able to: <ul style="list-style-type: none"> properly use materials, tools, and/or equipment related to drafting, construction, and/or modeling; effectively communicate a scale drawing to another student while acting as a professional in the field; (i.e. architect, contractor, building inspector, etc.) correctly communicate a structural design through drafting/CAD techniques for utilization in construction.

SUGGESTED STRATEGIES		
ACTIVITIES	DECLARATIVE KNOWLEDGE	PROCEDURAL KNOWLEDGE
Students will research building codes in a specific town based on current project in class.	Building codes, Permit Engineer, Architect Environmental Protection Agency Plumbing, Electrical, Heating/Ventilation Air Conditioning Residential, Commercial, State, Local FEMA	<ul style="list-style-type: none"> • Research and summarize building codes. • Analyze impact of building codes related to architectural plans.
Students will create a process sheet for a construction permit which includes the job titles and description of those who are involved.	Process sheet Flow chart Approvals, Certification Inspection Engineer, Architect, Plumber, Electrician, Contractor, Mason, Supplier, Manufacturer, Department of Buildings	<ul style="list-style-type: none"> • Create a process sheet. • Defend purpose of certain steps in the permit seeking process. • Describe the various jobs within the building process.
Students will design a set of working plans in order to construct a structure according to previously researched building codes.	Floor / Roof / Foundation / Structure/ Site Plan Section Cut Building Code	<ul style="list-style-type: none"> • Develop a set of working plans to communicate their design. • Separate the various aspects of a specific structure based on stages of construction.

SUGGESTED MODIFICATIONS	
TECHNOLOGY INTEGRATION	
Activity Alternatives <ul style="list-style-type: none"> • Student can create a set of working plans and research if it meets code in their specified town utilizing the Internet. • Students can utilize LucidChart < www.lucidchart.com > to create a flow chart of their permit process. 	Student Monitoring <ul style="list-style-type: none"> • Utilize LucidChart's live document feature to document their daily process.
DIFFERENTIATION	
The teacher may: <ul style="list-style-type: none"> • provide students with a guide on navigating through building codes; • assign students to only work with a specific area of building codes; • change the type of structure based on ability level. 	

UNIT OVERVIEW

ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS
Computer-aided design and traditional drafting each have their place in the world of architecture.	What are the various tools used in architectural drawing? How are CAD and traditional drawing methods used in the workforce of today? What influences an architect to use CAD over traditional technical drawing, or vice versa?
3D modeling provides an opportunity to see a design during development and before construction.	What are some different types of 3D models and their purposes? What are the various approaches to 3D modeling? Why is a 3D model an effective way to present a final idea to a client?
Architectural styles and design evolve based on a variety of factors and approaches.	What are the different approaches that can be taken when presented with an architectural design problem?
Architects use many types of drawings and modeling to convey a final design.	What types of drawings and models can an architect use to communicate ideas?

LEARNING TARGETS

NJCCCS/CCSS	COMMON ASSESSMENT	LEARNING GOALS
8.1.12.F.2 8.2.12.A.1 8.2.12.E.1 8.2.12.F.1, 3 9.1.12.A.1 9.1.12.B.2 9.1.12.F.2 11-12.WHST.2,6	Students will receive a design brief in which they will evaluate a client’s needs and choose the best method to communicate their design through a performance-based project. Students will utilize working plans to create the appropriate model based on the best communication method, while documenting their design process.	The proficient student will be able to: <ul style="list-style-type: none"> • produce a set of working floor plans; • communicate their two-dimensional plans in three-dimensions; • evaluate a client’s wants and needs; • analyze a situation in order to apply the best approach.

SUGGESTED STRATEGIES		
ACTIVITIES	DECLARATIVE KNOWLEDGE	PROCEDURAL KNOWLEDGE
Debate the use of computer-aided designed versus traditionally plans and/or models	Computer-Aided Design, Tools, Methods, Drafting, Technique, Efficiency, Quality, Aesthetics	<ul style="list-style-type: none"> • Debate the situations in which traditional and computer-aided would be desired. • Question another student's opinion on a specific situation. • Defend ones opinion on a specific situation.
Compare and contrast 3D models by creating one traditional and one computer-aided design of the same structure.	Strategy, Efficiency, Quality, Aesthetics, Compare, Contrast, Relate, Evaluate, CAD	<ul style="list-style-type: none"> • Experiment with utilizing two different methods of modeling. • Assess the various outcomes of both approaches.

SUGGESTED MODIFICATIONS	
TECHNOLOGY INTEGRATION	
Activity Alternatives <ul style="list-style-type: none"> • Debate through Today's Meet as class. • Utilize graphic organizers from ReadWriteThink in order to create a chart to compare and contrast. 	Student Monitoring <ul style="list-style-type: none"> • Monitor student debate on Today's Meet.
DIFFERENTIATION	
The teacher may: <ul style="list-style-type: none"> • have students work in groups; • have students choose their own structure to create; • have students research information to support their debate through an online supplement. 	

UNIT OVERVIEW

ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS
Legal and consumer regulations influence residential and commercial designs.	How do available materials affect design decisions?
3D modeling provides an opportunity to see a design during development and before construction.	What are some different types of 3D models and their purposes? What are the various approaches to 3D modeling? Why is a 3D model an effective way to present a final idea to a client?
Architects use many types of drawings and modeling to convey a final design.	What types of drawings and models can an architect use to communicate ideas? What influences an architect’s method of presentation? How would an architect present a design to a client?

LEARNING TARGETS

NJCCCS/CCSS	COMMON ASSESSMENT	LEARNING GOALS
8.2.12.B.2 8.2.12.F.1,2 9.1.12.A.1 9.1.12.B.1,2, 3 11-12.RST.3, 4,10 11-12.WHST.9	Students will receive a design brief in which they will create a performance based project on communicating required structural details to a client through architectural modeling based on student research and material testing.	The proficient student will be able to: <ul style="list-style-type: none"> • create a set of working floor plans in order to communicate structural details and overall design to a client; • construct a model that reflects needed structural details; • identify materials for a specific job; • predict the outcome of a situation with the use of a specific material.

SUGGESTED STRATEGIES

ACTIVITIES	DECLARATIVE KNOWLEDGE	PROCEDURAL KNOWLEDGE
Students will experiment with various supplied materials and compare based on ease of use and structural properties.	Material properties Structure Balsa, foam Tension, compression, torsion, shear, load, force, gravity, mass	<ul style="list-style-type: none"> • Experiment with various materials. • Compare and contrast the properties of the various materials.
Students will create a template and utilize it to build a model based on their needs to convey a final design.	Template, Blue Print, Miter, Bevel, Scalene, Obtuse, Arch, Right Angle, Joints, Support, Anchor	<ul style="list-style-type: none"> • Develop a template to utilize while building. • Apply information about material properties while building.

SUGGESTED MODIFICATIONS

TECHNOLOGY INTEGRATION

Activity Alternatives

- Students can utilize a computer-aided design program in order to create their template.
- Students can utilize a vector-based drawing program to create their plans.

Student Monitoring

- Students can save their plans to the network drive or cloud storage such as DropBox for the teacher to access.

DIFFERENTIATION

The teacher may:

- provide the students with a basic template to work within;
- assign different materials based on structural properties;
- provide examples of previously completed structures.

UNIT OVERVIEW

ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS
Legal and consumer regulations influence residential and commercial designs	How do available materials affect design decisions?
Architectural styles and design evolve based on a variety of factors and approaches.	What is an architectural style? How and why have architectural styles change over time? How can a trend in architecture be affected by cultural, political, economic, and environmental factors? What are the different approaches that can be taken when presented with an architectural design problem?

LEARNING TARGETS

NJCCCS/CCSS	COMMON ASSESSMENT	LEARNING GOALS
8.2.12.C.2 8.2.12.F.2 9.1.12.A.1 9.1.12.B.1, 3 11-12.RST.2, 3, 4, 7, 10 11-12.WHST.9	Students will receive a design brief in which they will create a knowledge based project on architectural styles and structures, as well as whom and what influences them over time through the creation of their own structure.	The proficient student will be able to: <ul style="list-style-type: none"> • identify the origin of an architectural style and what factors influenced it; • evaluate why the various trends would affect architectural styles; • identify jobs/careers that affect architectural design; • recognize how available materials can affect architectural design.

SUGGESTED STRATEGIES		
ACTIVITIES	DECLARATIVE KNOWLEDGE	PROCEDURAL KNOWLEDGE
Research various architectural styles and create a poster that describes the defining characteristics of the style.	Victorian, Saltbox, Colonial, Contemporary, Craftsman, Gothic, Queen Anne, Neo-Classical, Cape Cod, Tudor, Ranch, Split Level, Farmhouse	<ul style="list-style-type: none"> Identify defining design characteristics in a style. Match a style to a feature Illustrate the exterior of an architectural style.
Compare and contrast architectural styles that share the same original architectural styles.	Pure Architectural Style, Variations, Modifications, Influences, Regions, Features	<ul style="list-style-type: none"> Analyze an architectural style based on its origin. Compare architectural styles with the same pure style. Locate a feature of a building.
Modify an original architectural style in order to create a new architectural style	Gabel, Hipped, Columns, Dormer, Motif, Porch, Balcony, Cantilever, Pitch, Geometric, Symmetrical, Asymmetrical, Traditional, Contemporary, Eaves, Chimney, Ornate	<ul style="list-style-type: none"> Modify an original architectural style to fit certain desires. Manipulate a floor plan to fit personal preference. Experiment with various designs.

SUGGESTED MODIFICATIONS	
TECHNOLOGY INTEGRATION	
Activity Alternatives <ul style="list-style-type: none"> Utilize computer-aided design software. Utilize graphic or online software in order to create a poster. Utilize Google Drive to create graphic representations and work log. 	Student Monitoring <ul style="list-style-type: none"> Students will fill out daily work log on their progress through Google Drive.
DIFFERENTIATION	
The teacher may: <ul style="list-style-type: none"> assign styles based on ability level; have students work in groups, pairs, or solo, based on preference and strength. 	

UNIT OVERVIEW

ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS
Architectural plans are essential to properly communicate a design.	What information is needed to properly communicate an architectural design?
3D modeling provides an opportunity to see a design during development and before construction.	Why is a 3D model an effective way to present a final idea to a client?
Architects use many types of drawings and modeling to convey a final design.	What types of drawings and models can an architect use to communicate ideas? What influences an architect’s method of presentation? How would an architect present a design to a client?
The field of architecture has many career opportunities in a variety of specializations.	How does a professional conduct himself or herself?

LEARNING TARGETS

NJCCCS/CCSS	COMMON ASSESSMENT	LEARNING GOALS
8.2.12.A.1 8.2.12.B.3 8.2.12.F.1 9.1.12.A.1 9.1.12.B.1, 2, 3 11-12.RST.2, 3, 4, 7 11-12.WHST.1, 2, ,6	Students will receive a design brief in which they will create a performance based project to communicate a design to a client in a professional manner utilizing professional attire and presentation methods through documentation.	The proficient student will be able to: <ul style="list-style-type: none"> • communicate a set of architectural plans to a client using an effective method; • conduct themselves in a professional manor; • differentiate their style of communication to reach multiple audiences.

SUGGESTED STRATEGIES

ACTIVITIES	DECLARATIVE KNOWLEDGE	PROCEDURAL KNOWLEDGE
Students will design a house for another student in the class based on their wants and needs.	Floor Plans, Sections Cuts, Elevations, Rendering, Interior Design, Fixtures, Living Space, Square Footage, Equations	<ul style="list-style-type: none"> • Generate information through interviewing their partner. • Synthesize their client’s wants and needs. • Question wants and needs of their client based on constraints.

SUGGESTED STRATEGIES		
ACTIVITIES	DECLARATIVE KNOWLEDGE	PROCEDURAL KNOWLEDGE
Students will present their design proposal in front of the class in a professional manner.	Professional Dress, Pin Up, Critique, Display, Correspondence, Review, Feedback, Redesign	<ul style="list-style-type: none"> • Prepare a presentation and display to communicate a final design. • Express their ideas and thoughts both verbally and visually.

SUGGESTED MODIFICATIONS	
TECHNOLOGY INTEGRATION	
Activity Alternatives <ul style="list-style-type: none"> • Students can utilize email to communicate with a client in another class or school in order to create a real world situation. • Students can use Google Hangout or Skype to communicate live with their client. 	Student Monitoring <ul style="list-style-type: none"> • Students will record/publish and share their Google Hangout or Skype feed of their project with the teacher.
DIFFERENTIATION	
The teacher may: <ul style="list-style-type: none"> • provide guided questions for interviewing; • provide a template for the final display. 	

HONORS ARCHITECTURE II
UNIT 9: JOB-SPECIFIC INDUSTRY STUDY

SUGGESTED DURATION: 2-3 WEEKS

UNIT OVERVIEW

ENDURING UNDERSTANDINGS	ESSENTIAL QUESTIONS
Architects use many types of drawings and modeling to convey a final design.	What influences an architect’s method of presentation?
The field of architecture has many career opportunities in a variety of specializations.	What degrees/certifications are available in the field of architectural design? What are the different types of architecturally related jobs? How does a professional conduct himself or herself?

LEARNING TARGETS

NJCCCS/CCSS	COMMON ASSESSMENT	LEARNING GOALS
8.2.12.B.1, 3 8.2.12.F.1 8.2.12.G.1 9.1.12.A.1 9.1.12.B.1, 2, 3 9.1.12.F.1 11-12.RST.1, 2, 4, 7, 9 11-12.WHST.2, 8, 9	Students will receive a design brief in which they will create a performance based project related to student interest based on research of degrees/certifications that are available in the field of architecture, where their final design must be presented through a method appropriately chosen by the student.	The proficient student will be able to: <ul style="list-style-type: none"> • identify degrees and certifications of various architecture related jobs/careers; • justify methods of communication based on knowledge of workforce.

SUGGESTED STRATEGIES

ACTIVITIES	DECLARATIVE KNOWLEDGE	PROCEDURAL KNOWLEDGE
Students will research a specific job related to architecture in order to create a poster or graphic representation.	Landscape, Engineer, Civil, Mechanical, Electrical, HVAC Technician, Interior Design, Urban, Mason, Carpenter, Plumber, Electrician, Structural	<ul style="list-style-type: none"> • Define specific terms related to research. • Differentiate between various sources related to jobs/careers.
Students will prepare a model specific to an area of architecture of their chosen field in order to communicate concepts within that field.	Solar Panels, Green Architecture, Straw Bail, Cob, Primitive, Shelter, Passive Solar, Solar Heating	<ul style="list-style-type: none"> • Generate a model based on a specific area of architecture. • Justify their design through research and modeling.

SUGGESTED STRATEGIES		
ACTIVITIES	DECLARATIVE KNOWLEDGE	PROCEDURAL KNOWLEDGE
Students will research certifications and programs to create a portfolio for application into further their architectural education.	University, Program of Study, Certifications, Bachelors, Masters, Doctorate, Coordinator, Admissions, Portfolio, Essay, Resume, License, Accreditation , tuition	<ul style="list-style-type: none"> Plan the best education program to meet their needs. Compare different educational programs based on various situations.

SUGGESTED MODIFICATIONS	
TECHNOLOGY INTEGRATION	
Activity Alternatives <ul style="list-style-type: none"> Students can utilize email and other methods of communication (Google Hangout, Skype) to connect with higher education representatives, as well as professional architects. Students can join an online forum regarding the specific program of study that they are researching. 	Student Monitoring <ul style="list-style-type: none"> Students will create print screens of their communications with the architectural society.
DIFFERENTIATION	
The teacher may: <ul style="list-style-type: none"> provide the students with guided notes; provide the students with contact information; partner students with complimentary abilities. 	